

divider is variable and set to 1 to receive the TV signal having a predetermined frequency band and to 1/2 or less to receive a TV signal having a frequency band lower than the predetermined frequency band.

According to a second aspect of the present invention, there is provided a TV signal receiving tuner for receiving TV signals by dividing them into a plurality of frequency bands, comprising a local oscillator which oscillates at a frequency range corresponding to a TV signal having a predetermined frequency band, a second programmable divider which receives a local oscillation signal of the local oscillator and divides the local oscillation signal, a second mixer which mixes the received TV signal and the local oscillation signal and frequency converts the received TV signal into an intermediate-frequency signal having a predetermined frequency, and a third mixer which mixes the received TV signal and the output of the second programmable divider and frequency converts the received TV signal into an intermediate-frequency signal having a predetermined frequency, wherein frequency conversion is carried out by the second mixer to receive the TV signal having a predetermined frequency band, and wherein frequency conversion is carried out by the third mixer to receive the TV signal having a frequency band lower than the above predetermined frequency band.

According to a third aspect of the present invention,

there is provided a TV tuner wherein a dividing rate of the second programmable divider is variable and changed according to an area where it is used.

According to a fourth aspect of the present invention, there is provided a TV tuner wherein a first tracking filter for selecting the TV signal having a predetermined frequency band and a second tracking filter for selecting the TV signal having a frequency band lower than the predetermined frequency band are arranged in parallel to each other, wherein a PLL IC for outputting a tuning voltage for changing the frequency of the local oscillation signal output from the local oscillator is provided, and wherein the tuning voltage is applied to the first tracking filter and the second tracking filter to tune a pass band of the first tracking filter or the second tracking filter to a frequency of the TV signal to be received.

According to a fifth aspect of the present invention, there is provided a TV tuner wherein the first tracking filter and the second tracking filter are a multi-tuning circuit.

According to a sixth aspect of the present invention, there is provided a TV tuner wherein a low-noise first preamplifier having an AGC function is provided after the first tracking filter, and wherein a low-noise second preamplifier having an AGC function is provided after the second tracking filter.

According to a seventh aspect of the present invention, there is provided a TV tuner wherein a first image trap circuit for attenuating an image frequency signal corresponding to a TV signal to be received is interposed between the first preamplifier and the second mixer, and wherein a second image trap circuit for attenuating an image frequency signal corresponding to a TV signal to be received is interposed between the second preamplifier and the third mixer.

According to an eighth aspect of the present invention, there is provided a TV tuner wherein the local oscillator outputs an oscillation signal having a frequency band of at least 847 to 505 MHz, and wherein the dividing rate of the first programmable divider can be changed to at least 1,  $1/3$  and  $1/5$ .

According to a ninth aspect of the present invention, there is provided a TV tuner wherein the local oscillator outputs an oscillation signal having a frequency band of at least 803 to 473 MHz, and wherein the dividing rate of the first programmable divider can be changed to at least 1,  $1/3$  and  $1/9$ .

According to a tenth aspect of the present invention, there is provided a TV tuner wherein the local oscillator outputs an oscillation signal having a frequency band of at least 824 to 530 MHz, and wherein the dividing rate of the first programmable divider can be changed to at least 1,  $1/3$  and  $1/4$ .